

tration of the fourth-first conductivity type semiconductor layer being lower than that of the first-first conductivity type semiconductor layer.

15. The semiconductor device according to claim 1, which further comprises a fourth-second conductivity type semiconductor layer which is formed in the vicinity of a boundary with the cell region portion in said junction terminating region portion so as to surround the cell region portion and which is connected to the first main electrode and the second main electrode.

16. The semiconductor device according to claim 1, which further comprises a junction terminating structure including a field plate electrode which is provided on the first-first conductivity type semiconductor layer in said junction terminating region portion with an insulating film interposed therebetween.

17. The semiconductor device according to claim 1, which further comprises a junction terminating structure including a resurf layer which is formed in surface portions of the first-first conductivity type semiconductor layer and of the third-second conductivity type semiconductor layers in said junction terminating region portion.

18. The semiconductor device according to claim 1, which further comprises a junction terminating structure including a plurality of guard ring layers which are formed in surface portions of the first-first conductivity type semiconductor layer in said junction terminating region portion, or in surface portions of the first-first conductivity type semiconductor layer and of the third-second conductivity type semiconductor layers.

19. A method of manufacturing a semiconductor device having a super junction structure with a first conductivity type semiconductor layer on which a trench groove whose

aspect ratio is R is provided and a second conductivity type semiconductor layer which is buried in the trench groove, the method of manufacturing the semiconductor device comprising:

forming a trench groove having an aspect ratio of R/N (N is a natural number greater than 1) in a first conductivity type semiconductor layer;

epitaxially growing a second conductivity type semiconductor layer so as to bury the trench groove;

removing the second conductivity type semiconductor layer until a surface of the first conductivity type semiconductor layer is exposed;

epitaxially growing the first conductivity type semiconductor layer on the first conductivity type semiconductor layer and the second conductivity type semiconductor layer such that the thickness of the first conductivity type semiconductor layer increases by a length which is substantially the same as a depth of the trench groove formed by said first process;

selectively removing the first conductivity type semiconductor layer such that the second conductivity type semiconductor layer which is buried in the trench groove formed by said first process is exposed; and

repeating said epitaxially growing the second conductivity type semiconductor layer through selectively removing the first conductivity type semiconductor layer ($N-1$) times.

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